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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,756	01/22/2004	Shigcru Ogino	1232-4481US1	7675
27123 7590 01/30/2008 MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER VILLECCO, JOHN M	
			ART UNIT 2622	PAPER NUMBER
			NOTIFICATION DATE 01/30/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/763,756

Applicant(s)

OGINO, SHIGERU

Examiner

John M. Villecco

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-29, 40-50 and 55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-21, 23-29, 40-46, 48-50 and 55 is/are rejected.
- 7) ☒ Claim(s) 22 and 47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/203,997.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/22/2004 and 12/20/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. On July 24, 2007, the Examiner made a restriction requirement on claims 1-55. A short time after the mailing of the restriction requirement, applicant's representative contacted the Examiner to inform the Examiner that in the filing of the application, applicant indicated on page 3 of the transmittal papers that claims 1-14, 30-39, and 51-54 are cancelled. Upon acknowledge the mistake, the Examiner instructed the applicant's representative to respond to the restriction requirement pointing out the Examiner's mistake. As of the writing of this office action, the applicant has yet to file a response to the mistaken restriction requirement. Therefore, the Examiner will act on the pending claims (15-29, 40-50, and 55) with disregard to the outstanding restriction requirement.

Specification

2. The disclosure is objected to because of the following informalities:
- On page 41, line 10, of the specification applicant refers to *image pickup elements* as reference numbers 1201, 1202, and 1203. On page 42, line 4 of the specification, applicant references to reference numbers 1201, 1202, and 1203 as the first through third *prisms*. Thus, applicant uses the same reference numbers for different components.

Appropriate correction is required.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 1615. It appears that applicant meant that Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 19 and 44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

More specifically, applicant claims that the distance measuring means measures distance

based on position information about the plurality of lenses in the first and second optical systems. It appears that applicant is trying to claim the brief discussion of a modification to the invention discussed on page 50 of the specification. However, as discussed on pages 40-41 of the applicant's specification the lenses comprising the first and second optical systems (1108 and 1113) are fixed. Therefore it is unclear how a fixed lens set can be used to determine a distance based on its zoom value. As now detail is given as to how this is accomplished in a two optical system camera, one of ordinary skill in the art would not be enabled to make and/or use the invention. As page 50 merely states that the distance values can be determined by the zoom values of the first and second lens systems without giving details as to how the fixed lens systems can change their zoom value, the examiner is of the opinion that one of ordinary skill in the art would have to undertake undue experimentation to make and use the invention. Furthermore, this little amount of information provided in the specification would not enable one of ordinary skill in the art to make the claimed invention. This is proven by the fact that no other prior art has been found that describes this situation. As per *In re Wands*, (see section 2164.01 of the MPEP), based on the *In re Wands* factors, the examiner is of the opinion that one of ordinary skill in the art would be forced to undertake undue experimentation in order to make and/or use the invention. Of particular note are factors (C) State of the prior art, (D) The level of one of ordinary skill, (F) The amount of direction provided by the inventor and (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure. When considering each of these factors, the examiner is of the opinion that one of ordinary skill would not be enabled to make and/or use the invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 15-18, 21, 23, 28, 29, 40-43, 46, 48, 49, 50, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inuma (Japanese Publ. No. 01-288849 A) in view of Zanen (U.S. Patent No. 5,828,913).**

7. Regarding ***claim 15***, Inuma discloses a stereoscopic image pickup device which is small and light in weight. More specifically and as related to applicant's claims. Inuma discloses a first optical system (1a) and a second optical system (1b) with a predetermined convergence angle therebetween (inherently, two offset optical system have a predetermined convergence angle), a first electronic shutter (1c) and a second electronic shutter (1d) for electronically blocking (liquid crystal shutters are inherently operated electronically) the optical paths of the first and second optical systems, an optical path integrator (optical synthesizer, 1h) for integrating the optical paths of the first and second optical systems, a third optical system (including lens shown after the optical synthesizer in Figure 1) having the integrated optical path, and a charge couple device (CCD, 2) for photoelectrically converting an optical image transmitted through the third optical system. See the abstract. An official translation has been ordered for use in subsequent office actions. Furthermore, Inuma discloses that the images are alternately

captured. Therefore, it is inherent that the electronic shutters are operated in a time-division manner. In addition, it is inherent that the charge coupled device is controlled by a reading means for reading out the alternately captured images from the CCD (2) in synchronization with the time-division of the electronic shutters.

Inuma however, fails to explicitly disclose a distance measuring means for measuring a distance to a subject and an adjusting means for adjusting the convergence angle between the first and second optical systems in accordance with the measured distance. Zanen, on the other hand, discloses that it is well known in the stereoscopic imaging art to measure the distance to an object and to adjust the convergence angle of mirrors in order to properly form left and right images of the same object. More specifically and in relation to the claim language, Zanen discloses the use of a distance measuring means (optical focus sensor, 101) for measuring a distance to a subject and an adjusting means (servo motor, 103; actuating arm, 104; rack, 8; central gear, 17; racks, 15 and 18; and pivots, 13) for adjusting the convergence angle between the first and second optical systems in accordance with the measured distance. See column 5, lines 8-50. By adjusting the convergence angle of a stereoscopic image system, the two separate images captured by the different optical systems are made to coincide and overlap is maximized. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the convergence angle of the mirrors of Inuma in a manner similar to Zanen so that the capture of separate stereoscopic images at different focal distances is made to coincide.

8. As for *claim 16*, Inuma discloses the use of a prism (1h) at the entrance of the optical path of the third optical system, a first mirror (1e) and a second mirror (1g).

Additionally, Zanen discloses that the adjusting means comprises an angle adjusting means (pivot, 13) for controlling the angle of pivot of the mirrors.

9. With regard to *claim 17*, Zanen discloses that the mirrors are pivoted in opposite directions. See column 5, lines 15-20.

10. Regarding *claim 18*, as mentioned above in the discussion of claim 15, the combination of Inuma and Zanen disclose all of the limitations of the parent claim.

Although Zanen does disclose that any type of focus sensor and optical method can be used to determine distance (col. 5, line 43-46), neither of the aforementioned references specifically discloses that the distance measuring means uses a triangulation method.

Official Notice is taken as to the fact that it is well known in the photography art that triangulation methods are commonly used to determine a distance to an object.

Triangulation methods provide a quick and easily implemented way of obtaining distance information. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the focus sensor operate via a triangulation method as this is a well-known way of determine distance information in an imaging system.

11. As for *claim 21*, Zanen discloses that in response to the change in distance the mirrors (12) are rotated to accommodate for the change. Thus, it is inherent that there must be some means for detecting that the distance has changed. Additionally, Zanen discloses that the convergence is controlled automatically by the focus sensor (col. 5, lines 48-50). Thus, there also must be some means for activating the adjusting means in order to control the convergence.

12. With regard to **claim 23**, although not specifically disclosed, it is well known in the art that focus sensors can determine that a subject is at infinity. Thus, the crossing point would also be at infinity, making the optical paths of the first and second optical systems parallel.

13. Regarding **claim 28**, Inuma discloses the use of a display (32) connected to the video output (4) for displaying the output image.

14. As for **claim 29**, the display (32) of Inuma can broadly be interpreted to be a viewfinder.

15. **Claim 40** is considered a method claim corresponding to claim 15. Please see the discussion of claim 15 on the preceding pages.

16. **Claim 41** is considered a method claim corresponding to claim 16. Please see the discussion of claim 16 on the preceding pages.

17. **Claim 42** is considered a method claim corresponding to claim 17. Please see the discussion of claim 17 on the preceding pages.

18. **Claim 43** is considered a method claim corresponding to claim 18. Please see the discussion of claim 18 on the preceding pages.

19. **Claim 46** is considered a method claim corresponding to claim 21. Please see the discussion of claim 21 on the preceding pages.

20. **Claim 48** is considered a method claim corresponding to claim 23. Please see the discussion of claim 23 on the preceding pages.

21. **Claim 49** is considered a method claim corresponding to claim 28. Please see the discussion of claim 28 on the preceding pages.

22. *Claim 50* is considered a method claim corresponding to claim 29. Please see the discussion of claim 29 on the preceding pages.

23. As for *claim 55*, the claim recites the same limitations as found in claim 40, except in a computer readable medium claim form. Although, not specifically disclosed in either of Inuma or Zanen, Zanen does disclose the use of a "control signal" to control the mirrors. Additionally, Official Notice is taken as to the fact that CPU's with computer readable storage mediums, such as ROM's, are commonly used to control the functionality of a camera. The use of CPU's with such memories is a necessity in the age of digital cameras in order to impart functionality in a camera. Therefore, it would have been obvious to implement the instructions given in both Inuma and Zanen using a CPU.

24. **Claims 20 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inuma (Japanese Publ. No. 01-288849 A) in view of Zanen (U.S. Patent No. 5,828,913) and further in view of Nakamura (U.S. Patent No. 6,606,113).**

25. Regarding *claim 20*, as mentioned above in the discussion of claim 15, the combination of Inuma and Zanen discloses all of the limitations of the parent claim. While Inuma does disclose the use of a liquid crystal shutter, he fails to specifically describe the structure of it. As such, neither of the aforementioned references specifically discloses that the electronic shutters comprise a liquid crystal panel interposed between polarizers. Nakamura, on the other hand, discloses that it is well known in the art to design an electronic shutter with a liquid crystal panel interposed between polarizers. More specifically as shown in Figure 8A the liquid crystal shutter (124) includes a liquid crystal panel (liquid crystal layer (148) interposed between polarizers (polarizing plates,

145a and 145b). As this structure is a well known structure for a liquid crystal shutter, one of ordinary skill in the art would have found it obvious to construct the shutters of Inuma in a manner similar to Nakamura, as the general structure of a liquid crystal layer interposed between two polarizing plates is so well known.

26. **Claim 45** is considered a method claim corresponding to claim 20. Please see the discussion of claim 20 above.

27. **Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inuma (Japanese Publ. No. 01-288849 A) in view of Zanen (U.S. Patent No. 5,828,913) and further in view of Kawase et al. (Japanese Publ. No. 09-037119 A).**

28. Regarding **claim 24**, as mentioned above in the discussion of claim 15, the combination of Inuma and Zanen discloses all of the limitations of the parent claim. However, neither of the aforementioned references specifically discloses a camera main unit and a lens unit, connected via an interconnection unit. Kawase, on the other hand, discloses that it is well known in the art to have such an arrangement. More specifically, Kawase discloses a camera and its detachable lens system which includes a camera main unit (119) for processing the output of a CCD (27, 28, 29), a lens unit (118) for driving optical systems, and an interconnection unit (14 and 6) for electrically connect the camera unit (119) to the lens unit (118). The benefits of interchangeable lens are well known. For instance, the user can use many different types of lens for different photographing conditions. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to create the stereoscopic lens device of Inuma in a

manner similar to Kawase, so that the camera may be used without the stereoscopic lens system and a variety of different lenses may replace it.

29. With regard to **claim 25**, Kawase discloses a camera mount and lens mount for detachable connecting the lens to the camera main body. See Figures 1-4.

30. As for **claim 26**, Kawase discloses that the camera main unit includes a camera microcontroller (109) and that the lens unit (118) includes a lens microcomputer (110). See Figure 5.

31. Regarding **claim 27**, as mentioned above in the discussion of claim 15, the combination of Inuma and Zanen discloses all of the limitations of the parent claim. However, neither of the aforementioned references specifically discloses that the charge coupled device is arranged on one-for-each-color basis. Kawase on the other hand, discloses that it is well known in the art that CCD image sensors are commonly constructed in such a manner. More specifically, as shown in Figures 1 and 5, Kawase discloses an image sensor arrangement (26, 27, 28) with one image sensor designated for a specific color. It is well known in the art that this arrangement can provide color images with higher resolution. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use such an arrangement in the camera of Inuma so that an image with higher resolution can be generated.

Allowable Subject Matter

32. Claims 22 and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

33. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 22 and 47, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest a detector means for detecting a predetermined number or larger of changes in the distance to a subject, each change in excess of a predetermined value and activating means for activating the adjusting means in response to the output of the detector means.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (571) 272-7319. The examiner can normally be reached on Monday-Friday.

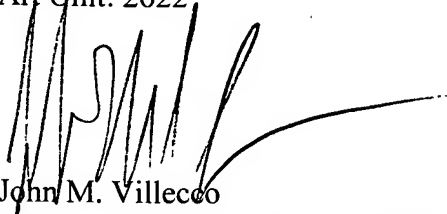
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number:

10/763,756

Art Unit: 2622

A handwritten signature in black ink, appearing to read 'J. M. Villecco', with a long, sweeping horizontal stroke extending to the right.

John M. Villecco

Primary Examiner, Art Unit 2622

January 11, 2008